

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 28 OCT 2004

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To:

see form PCT/ISA/220

NFC

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

FOR FURTHER ACTION

See paragraph 2 below

Applicant's or agent's file reference
see form PCT/ISA/220

International application No.
PCT/IB2004/051329

International filing date (day/month/year)
29.07.2004

Priority date (day/month/year)
30.07.2003

International Patent Classification (IPC) or both national classification and IPC
G01R33/12, G01R33/09, G01N27/72, G01N33/53, G01N15/06

Applicant
KONINKLIJKE PHILIPS ELECTRONICS N.V.

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Purdie, D

Telephone No. +49 89 2399-2187



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2004/051329

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. **type of material:**
 a sequence listing
 table(s) related to the sequence listing
 - b. **format of material:**
 in written format
 in computer readable form
 - c. **time of filing/furnishing:**
 contained in the international application as filed.
 filed together with the international application in computer readable form.
 furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2004/051329

Box No. II Priority

1. The following document has not been furnished:

- copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).
 translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|---------------------|
| Novelty (N) | Yes: Claims | 4,5,8,9,17 |
| | No: Claims | 1-3,6,7,10-16,18,22 |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | 1-22 |
| Industrial applicability (IA) | Yes: Claims | 1-22 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/IB2004/051329

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- D1: SMITH C H, SCHNEIDER R W AND TONDRA M: "Magnetic Biosensors" SENSORS, [Online] 1 December 1999 (1999-12-01), XP002300943 Retrieved from the Internet: URL:www.sensorsmag.com/articles/1299/14_1299/main.shtml
- D2: SMITH C H, SCHNEIDER R W AND POHM A V: "High-resolution, chip-size magnetic sensor arrays" SENSORS, [Online] 1 March 2003 (2003-03-01), XP002300944 Retrieved from the Internet: URL:www.sensorsmag.com/articles/0303/44/ma_in.shtml
- D3: BASELT D R ET AL: "A biosensor based on magnetoresistance technology" BIOSENSORS & BIOELECTRONICS, ELSEVIER SCIENCE PUBLISHERS, BARKING, GB, vol. 13, no. 7-8, 3 June 1998 (1998-06-03), pages 731-739, XP002285269 ISSN: 0956-5663

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The document D1 discloses in Fig. 4 a magnetic sensor device comprising a magnetic sensor element (GMR detector) and a magnetic field generator (field generation strap). Cross-talk suppression means are supplied by the material separating the strap and the detector, as well as by the interconnects.

The subject-matter of claims 2,3,6,7,10,11,14-22 would also appear not to be novel over D1, or at least not inventive (with respect to claim 17, D2 discloses flux guiding layers, in the form of flux concentrators).

Claims 4 and 5 would not appear to be inventive, filtering and phase comparison being standard techniques: see also D3 Fig. 8.

Claim 8 would appear to relate to a method, rather than an apparatus, as would claim 9.

Claims 12 and 13 would appear to be anticipated by Fig. 4 of D1, as the illustrated "interconnects" could, in principle, be used as magnetic field generators.